



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,610	01/08/2002	Mailvaganam Thavalingam Sivasithambaram Pillai	P0557/7045 DRW	6949
23628	7590	05/20/2004	EXAMINER	
WOLF GREENFIELD & SACKS, PC FEDERAL RESERVE PLAZA 600 ATLANTIC AVENUE BOSTON, MA 02210-2211			ANTHONY, JOSEPH DAVID	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/889,610

Applicant(s)

PILLAI ET AL.

Examiner

Joseph D. Anthony

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 9,12-23 and 30-37 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5 is/are allowed.
- 6) ☒ Claim(s) 1-2,6-8,10-11 and 24-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7, 25, 27 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 is deemed to be indefinite because the metes and bounds of what is meant by "the composite material" is unspecified and unknown.

Claim 25, 27, and 29 are deemed to be indefinite in regards to the concentration units "phr". What does "phr" stand for?

Claim 29 is further indefinite because the claimed rice hull mesh size is completely outside of the rice hull mesh size as set forth in claim 27 from which claim 29 directly depends.

Claim Rejections - 35 USC § 102 @ 103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1714

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 6-7, and 10-11 rejected under 35 U.S.C. 102(b) as being anticipated by Mehta U.S. Patent Number 3,951,907.

Mehta teaches elastomeric and plastomeric materials containing amorphous carbonaceous silica filler materials made from carbonizing organic agricultural materials, such as rice hulls, at a temperature not in excess of 1250°F, see the abstract, and column 3, lines 20-37. Mehta defines "plastomers" to include thermosetting plastics, see column 10, lines 47-49. The preferred, but not required, rice hull ash particle size range when used as a filler material is less than about 2 um, see column 16, lines 36-41. Applicant's claims are deemed to be anticipated over the examples, such as examples IV-XII wherein a 325 mesh particle size sample of rice hulls is made and is subsequently used to determine the "silica activity index".

6. Claims 8 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehta U.S. Patent Number 3,951,907.

Mehta has been described above and differs from applicant's claimed invention in the following ways: 1) there is no direct teaching (i.e. by way of an example) to where carbonized vegetable filler material having applicant's claimed

Art Unit: 1714

particle size of from 100 mesh to 400 mesh is taught in combination with a composite material, and 2) there is no direct teaching (i.e. by way of an example) to where carbonized rice hulls are blended with a thermoset resin.

It would have been obvious to one having ordinary skill in the art to use the broad disclosure of the reference to making carbonized rice hulls having a mesh size of 325 mesh as motivation to actually use rice hull ash with such as mesh size as a filler material for composite materials. It would also have been obvious to use carbonized rice hulls as a filler material for thermosetting resins since such is suggested by the reference in column 10, lines 47-49.

7. Claims 1-2, 6-8 and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 92/00251 or Kindt et al. U.S. Patent Number 4,829,107.

WO teaches cement blends incorporating at least 5% and up to 40% of siliceous crop residue ash, such as rice hull ash, as a filler material, wherein at least 50% of the ash particles are in the 10 to 75 um size distribution range, see abstract and page 4, lines 5-9. Applicant's claims are deemed to be anticipated over the rice hull ash set forth in Table 1 on page 6, and over its use when incorporated into cement, see pages 7-8, the examples and the claims.

Kindt et al teaches rice hull ash as a filler material for concrete. The temperature used to carbonize the rice hull is preferably 800°C, see abstract, column 3, line 24 to column 4, line 40 and the examples. Applicant's claims are deemed to be anticipated over the examples, such as example 1, wherein rice hull ash of RHA-

Art Unit: 1714

PF class having a median particle size of 65 um is used as the starting material that is to be grounded within a slurry to produce finer size particles having a median particle size of 2.6 um. Also see Table 4 wherein a sample of rice hull ash of 65 um is directly added to cement.

8. Claims 1-2, 6-7, and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Pitt U.S. Patent Number 3,959,007 or Mehta U.S. Patent Number 4,105,459.

Pitt teaches a process for the preparation of siliceous ashes, such as rice hull ash, that can be used as a filler material for cement. Applicant's claims are deemed to be anticipated over: 1) Example IV wherein a 325 um sample of carbonized rice hull ash is produced and used in a "silica activity index" test, and 2) Examples VI-IX wherein rice hull ash is used as a filler material in cement.

Mehta teaches siliceous ashes as filler material for cements. Mehta discloses carbonization of rice hulls at a temperature not in excess of about 1250°F for up to 66 hours, see the abstract, column 3, lines 14-30 and examples. Applicant's claims are deemed to be anticipated over: 1) examples V-XIII and column 5, lines 22-67 wherein rice hull ash having a particle size of 325 mesh is used in a silica activity index test, and 2) Examples XVI-XIX wherein rice hull ash is used as a filler material for cement.

Art Unit: 1714

9. Claim 8 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pitt U.S. Patent Number 3,959,007 or Mehta U.S. Patent Number 4,105,459.

Pitt and Mehta have been described above and are deemed to anticipate applicant's claimed invention for the reasons set forth above. In the alternative, they may differ from applicant's claimed invention in that it is unclear if there is a direct teaching (i.e. by way of an example) to where carbonized vegetable filler material having applicant's claimed particle size of from 100 mesh to 400 mesh is taught in combination with a composite material. It would have been obvious to one having ordinary skill in the art to use the individual broad disclosures of either reference to using carbonized rice hulls having a mesh size of 325 mesh as motivation to actually use rice hull ash with such as mesh size as a filler material for composite materials.

Allowable Subject Matter

10. Claims 3-5 are allowed since there is neither a teaching nor sufficient suggestion within any of the applied/cited references to motivate one having ordinary skill in the art to perform applicant's claimed process of carbonizing vegetative-based material by burning said fresh vegetative-based material at about 803°C to 804°C for 3 to 4 seconds.

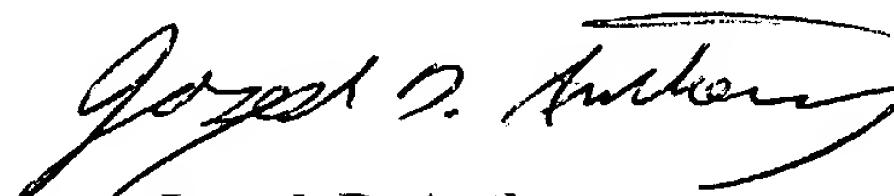
Art Unit: 1714

Prior-Art Cited But Not Applied

11. Any prior-art reference which is cited on FORM PTO-892 but not applied, is cited only to show the general state of the prior-art at the time of applicant's invention.

Examiner Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. This examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 6:30 p.m. in the eastern time zone. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (703) 872-9306. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.



Joseph D. Anthony
Primary Patent Examiner
Art Unit 1714

5/17/04